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## **Apache strikes it big in West Texas; Company believes there's a bounty of oil, natural gas in Permian field**

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The Houston oil exploration company Apache has made one of the biggest U.S. oil and gas discoveries in years, finding the equivalent of more than 15 billion barrels of oil in a relatively unknown quadrant of West Texas' Permian Basin, the company said Wednesday.

Depending on how much oil and gas can be recovered, the discovery could rank among the top finds of the last decade, including the Marcellus Shale in the Northeast, which has recoverable natural gas reserves estimated at the equivalent of 47 billion barrels of oil, the Eagle Ford in South Texas, with recoverable crude estimated at 23 billion barrels of oil equivalent, and Wolfcamp, also in the Permian, with recoverable crude and gas estimated at 9 billion barrels of oil equivalent, according to the research firm IHS Markit.

In 2012, Oklahoma City's Continental Resources said it found about 2 billion barrels of oil equivalent in its South Central Oklahoma Oil Province, which has among the highest production in the country.

Apache said its new field holds more than 3 billion barrels of oil - nearly the equivalent of an entire year of U.S. crude production - and 75 trillion cubic feet of natural gas, making it the company's biggest U.S. discovery ever and one of its most important worldwide. The field, which sits in the western subsection of the Permian known as the Delaware Basin, surpasses Apache's gas finds in British Columbia of more than 50 trillion cubic feet in 2012 and of about 2 trillion cubic feet in Egypt's Qasr field in 2003.

Apache's discovery bucks recent trends in an industry that has pulled back on exploration in the face of stubbornly low oil prices, said Pearce Hammond, an analyst at the investment banking firm Simmons & Company International. Most companies, looking to cut costs, are talking about efficiency, targeting wells that are known producers and employing drilling techniques to squeeze out more oil rather than seeking new fields to develop.

"The industry has been doing more with less, and that's been an ongoing theme," Hammond said. "Here we find out about a new play."

Drillers have flocked to Permian shale since the oil crash, scooping up land in the Midland Basin, another subsection of the Permian, and, more recently, the Delaware, where reserves are considered accessible at costs that would make drilling profitable with oil prices hovering around \$45 a barrel.

Off the beaten path

Apache's find is in the far southern section of the Delaware, primarily in Reeves County, south of the eastern corner of New Mexico near the Davis Mountains. The company is calling the field Alpine High.

CEO John Christmann said Apache zigged when the rest of the oil world was zagging. Instead of buying

up land in the ultra-competitive sections of the Permian, Apache guessed that the scrub-brush plains under the Davis Mountains held oil - despite common perceptions in the industry.

"We put it together slowly and quietly," Christmann said. "Folks down in that area knew that we were picking something up, but it was off the beaten path. It's a little farther out on the horizon than where a lot of people thought the fairway was."

Christmann said Apache started investigating the region about two years ago. While other exploration companies doubted the area held much oil and gas, Christmann said his engineers found a geological formation - essentially a shelf of shale rock - that they believed could hold significant reserves. They used seismic imaging technology, which uses sound waves to identify potential deposits, to seal their beliefs.

"The dogma, the industry perspective, was just not right," Christmann said. "A lot of folks knew we were down there. They just thought we were off on a wild Easter egg hunt."

Apache then began methodically piecing together 307,000 contiguous acres in the area over two years. It said it paid \$1,300 per acre on average.

The company has drilled 19 wells and identified 2,000 to 3,000 future drilling locations in the deepest parts of the play, expected to deliver a combination of natural gas and oil worth \$4 million to \$20 million per well at \$3 per million cubic feet in gas and \$50 per barrel of oil. Apache said it expected to find more oil in shallower sections of the play - oil that is not included in the 3 billion barrel estimates.

Unknowns remain

Still, there are a lot of unknowns, analysts said. In undeveloped land without pipelines, how will Apache get product to market? And with much more gas than more lucrative oil, will returns be profitable?

"I mean, 3 billion barrels of oil is a big number. But it's not Prudhoe Bay," he said, referring to the Alaska field that was estimated to hold 24 billion barrels. "It's not like it's a whole new oil province we didn't know existed."

It's also unclear how many barrels Apache will be able to recover, analysts said. Hydraulic fracturing typically generates 6 to 12 percent of the total oil and gas in the ground, at least on first attempt.

"It's a significant discovery for Apache, but let's not read that 3 billion barrels of oil are coming out of the ground," said Hassan Eltorie, analyst for IHS Markit.

Eltorie said Apache's move comes "out of left field." Other Permian operators - including some of the best in the field - have shied away from the land near the Davis Mountains, he said.

"It's a challenge to make this work economically," Eltorie said. "Apache has a lot to prove."

But Apache said it believes it can get more out of Alpine High, and so did investors: Shares of Apache rose nearly 7 percent, or \$3.46, to close at \$55.13 Wednesday.

The company is estimating a 13 percent recovery, for now, according to a presentation to made to investors Wednesday.

Apache increased its estimated capital spending this year by \$200 million to about \$2 billion to speed up the development of Alpine High. Work on the discovery will represent more than 25 percent of the company's capital spending it said.

"Today's announcement is the culmination of more than two years of hard work by the Apache team," Christmann said in a statement.



"These efforts have resulted in the identification of an immense resource that we believe will deliver significant value for our shareholders for many years."

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Top 10 oil and gas discoveries since 2006

Apache Corp. said Wednesday that it discovered crude and natural gas reserves equivalent to about 15 billion barrels of oil in West

Texas's Permian Basin, although it's unclear how much is recoverable.

ESTIMATED

RECOVERABLE

YEAR IN BARRELS OF

DISCOVERED LOCATION TYPE OIL EQUIVALENT

1. Marcellus United States 2006 Onshore Gas 47 billion
2. Eagle Ford United States 2009 Onshore Oil 23 billion
3. Libra Brazil 2010 Offshore Oil 12.4 billion
4. Buzios Brazil 2010 Offshore Oil+Gas 9.9 billion
5. Montney Canada 2007 Onshore Gas 9.4 billion
6. Lula Brazil 2006 Offshore Oil+Gas 9.1 billion
7. Mamba Complex Mozambique 2011 Offshore Gas 8.9 billion
8. Wolfcamp United States 2010 Onshore Oil+Gas 8.7 billion
9. Three Forks United States 2007 Onshore Oil 8.4 billion
10. Utica United States 2010 Onshore Gas 7.9 billion

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Source: IHS Markit, 2016

Apache Apache's Alpine High acreage lies in the southern portion of the Delaware Basin, primarily in Reeves County. Houston Chronicle Source: Apache Apache's new play (MAP)

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